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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/182,626	10/29/1998	DAVID E. WANG	QCPA471	2210

23696 7590 03/29/2002

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

NGUYEN, FRANCIS N

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 03/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/182,626

Applicant(s)
WANG ET AL.

Examiner
FRANCIS NGUYEN

Art Unit
2674



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Nov 20, 2001
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-56 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☒ Claim(s) 15-56 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 9-14 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

Art Unit: 2674

DETAILED ACTION

Response to Amendment

1. The amendment filed on 11/20/2001 is entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanatani et al. (U.S. Patent 5,414,443)

3. As to **claim 1**, Kanatani et al. discloses a system (**source driver and gate driver for TFT liquid crystal panel 100 as shown in figure 1**) for providing a first signal (**scanning pulse, column 1, lines 51-53**) to a circuit (**circuitry of each display pixel, shown in figure 1 as part of a plurality of display pixels that make up TFT LCD panel 100**) and receiving a second signal (**analog signal , column 8, lines 29-32, said signal located on signal electrode portion which is part of said circuitry**) from said circuit over an electrical connection (**intersection of scanning electrode and signal electrode to make up a display pixel as shown in figure 1**), said system comprising:

Art Unit: 2674

first means for providing said first signal (**gate driver 300** as shown in figure 1) to said circuit via a first electrical path (**scanning electrode located at display pixel shown in figure 1**), said first signal having alternating first and second states (**scanning pulse to scanning electrode in sequence, column 1, lines 51-53, output of gate driver as shown in figure 16, scanning pulse as shown in figure 19(a), column 15, line 65 through column 16, line 3**) ;

second means for generating a second signal (**source driver generating analog signal on signal electrode as shown on figure 1**); and

third means for receiving said second signal via said first electrical path, said second signal being received during said second state of said first signal (**TFT at intersection of scanning electrode and signal electrode, serving as switch as shown in figure 1**) .

However, Kanatani et al. fails to expressly teach a keypad. Note that Kanatani teaches an LCD display, a user interface such as keypad is known to accompany a flat display (note video input signals, column 8, line 28). **It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Kanatani et al., then provide a keypad for increasing user input and accessibility.**

4. As to **claim 2**, note the same citation for claim 1. Note that Kanatani et al. discloses **scanning signal as shown in figure 19(a)** (also column 15, line 65 through column 16, line 3) has continuously alternating states (+12V and -12V).

5. As to **claim 3**, note the same citation for claim 1. Kanatani et al. discloses said first signal provides power to said circuit (**voltage applied to selected pixel electrode as shown in figure 17(a)**

Art Unit: 2674

when scanning pulse is provided, column 1, line 67 through column 2, line 3) when said first signal is in said first state (+12V as shown in figure 19(a))

6. As to **claim 4**, note the same citation for claim 1. Kanatani et al. discloses means for adjusting a duty cycle and/or frequency of said first signal (**control circuit 4** as shown in figure 1, column 10, lines 7-9, **inverse of frequency of square wave shown in figure 18**).

7. As to **claim 5**, note the same citation for claim 1. Kanatani et al. discloses first means including a signal generator (**counter electrode drive circuit 8 generating a square wave**, column 14, lines 62-67).

8. As to **claim 6**, note the same citation for claim 1. Kanatani et al. discloses said signal generator includes a voltage source (**power source Vbb and Vdd**, column 14, lines 62-67), a switching circuit connected to said source and a control circuit connected to said switching circuit (**transistors as part of 501 and 502 devices shown in figure 16**), said control circuit effective to cause said switching circuit to output said first signal having first and second states at said duty cycle (**control circuit circuit 4 providing timing signals as scan clock pulse and scan start pulse shown in figure 16**).

9. As to **claim 14**, note the same citation for claim 1. Kanatani et al. discloses means for processing the second signal (**supplemental capacitance Cs as shown in figure 12**).

Art Unit: 2674

Allowable Subject Matter

10. **Claims 7, 9-13** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 15-56 are allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Francis Nguyen** (8:00AM to 4:30PM) whose telephone number is **(703) 308-8858**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

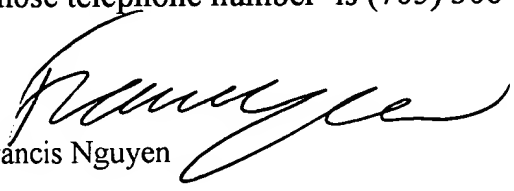
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington,

VA, Sixth Floor (Receptionist).

Art Unit: 2674

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Francis Nguyen

March 18th, 2002